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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/934,698	08/23/2001	Johannes Hubertus Josephina Moors	P 282823 P-0204.020-US	8408

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EXAMINER

NGUYEN, HUNG

ART UNIT PAPER NUMBER

2851

DATE MAILED: 07/09/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/934,698

Applicant(s)

MOORS ET AL.

Examiner

Hung Henry V Nguyen

Art Unit

2851

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 12 May 2003.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-30 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-30 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☒ The proposed drawing correction filed on 16 December 2002 is: a) ☒ approved b) ☐ disapproved by the Examiner
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Double Patenting

1. A rejection based on double patenting of the "same invention" type finds its support in the language of 35 U.S.C. 101 which states that "whoever invents or discovers any new and useful process ... may obtain a patent therefor ..." (Emphasis added). Thus, the term "same invention," in this context, means an invention drawn to identical subject matter. See *Miller v. Eagle Mfg. Co.*, 151 U.S. 186 (1894); *In re Ockert*, 245 F.2d 467, 114 USPQ 330 (CCPA 1957); and *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970).

A statutory type (35 U.S.C. 101) double patenting rejection can be overcome by canceling or amending the conflicting claims so they are no longer coextensive in scope. The filing of a terminal disclaimer cannot overcome a double patenting rejection based upon 35 U.S.C. 101.

2. Claims 1-30 are provisionally rejected under 35 U.S.C. 101 as claiming the same invention as that of claims 1-30 of copending Application No. 09/972,204. This is a provisional double patenting rejection since the conflicting claims have not in fact been patented.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 1-27 and 30 are rejected under 35 U.S.C. 103(a) as being unpatentable over Miyaji et al (U.S.Pat. 5,559,584) in view of Iizuka et al (JP-62254352A).

With respect to claims 1-27 and 30, Miyaji et al discloses a projection exposure apparatus comprising: a radiation system (EXL) for providing a projection beam of radiation; a support

Art Unit: 2851

structure (RT) for supporting a reticle (R) having a predetermined pattern formed thereon; a projection optical system (PL) for projecting the predetermined pattern formed on the reticle onto a photosensitive substrate; a substrate table (WS) for supporting the substrate; a chamber for enclosing the reticle "during handling, transportation or storage thereof". Miyaji lacks to show a "particle shield" for generating an electromagnetic field "so as to prevent particles to become incident on an object to be shielded". However, this structure is well known per se. For example, to prevent foreign matter such as dust, particles, which approach to a sample, from being attached to a surface of the sample, Iizuka' 352 teaches arranging an electric field/or magnetic field formation means in the vicinity of the front surface of the sample held on the board (see abstract and fig.1). In view of such teachings, it would have been obvious to one having ordinary skill in the art at the time the invention was made to incorporate the teachings of Miyaji and Iizuka to obtain the invention as specified in claims 1-30. It would have been obvious to a skilled artisan to generate an electromagnetic field within the exposure device of Miyaji for the purpose of preventing particles from being attached onto a predetermined surface of an object and whereby the quality of the exposure apparatus is greatly improved.

5. Claims 28-29 are rejected under 35 U.S.C. 103(a) as being unpatentable over Miyaji et al (U.S.Pat. 5,559,584) in view of Iizuka et al (JP-62254352) and further in view of Mc.Cullough (U.S.Pat. 6,445,439).

With respect to claims 28-29, Miyaji et al as modified by Iizuka et al (JP-62254352) discloses substantially all limitations of the instant claims as discussed except for a heater, a plate or a cooler as recited in claims 28-29. However, these structures are well known in the prior art

Art Unit: 2851

for the purpose of maintaining the temperature of the mask within a predetermined temperature. For example, McCullough (fig.1) discloses an exposure apparatus having a thermal management device (16) for maintaining the temperature of the mask at a desired temperature. It would have been obvious to one having ordinary skill in the art at the time the invention was made to provide a thermal management device as taught by McCullough into the exposure apparatus of Miyaji as modified by Iizuka et al for the purpose of controlling the temperature of the mask and improving the quality of the images of the exposure device.

Response to Amendment

6. Applicant's amendments filed May 12, 2003 have been entered. Applicant's arguments with respect to the prior art of record have been carefully reviewed but they are not found to be persuasive.

Regarding to the rejection of claims 1-30 under 35 U.S.C. 101 as claiming the same invention as that of claims 1-30 of copending application serial number 09/972,204 is maintained until appropriate action in the prosecution of the mentioned copending application is taken.

Turning to the rejection of claims 1-27 and 30 under references of Miyaji (U.S.Pat. 5,559,584) and Iizuka (U.S.Pat. JP-62254352A), applicant argued that there is no motivation to combine these references. The Examiner respectfully disagrees with the applicant. The Applicant is reminded that the rejection here is made under 35 U.S.C. 103(a). Accordingly, there need not be a clear suggestion in the reference of Iizuka' 352 to apply the "electric field formation means or a magnetic field formation means" into an exposure apparatus. The issue here is whether one of ordinary skill in the art, in the position of Miyaji would have employed

Art Unit: 2851

the "electric field formation means/ or a magnetic field formation means" of Iizuka to come up with the application's invention. As noted in the prosecution history of the present application, Miyaji teaches an exposure apparatus that comprises all of the basic features as recited in the instant claims such as: a radiation system, a support structure for supporting a patterning structure (a mask), a substrate table and a projection system. Firstly, Applicant argued that Miyaji et al does not suggest that "particles located in the system carry a charge". The Examiner disagrees with the application since the limitations as argued by the applicant are not explicitly stated in the claims. It is the claims that define the invention, and it is claims, not specifications that are anticipated or unpatentable. *Constant v. Advance Micro-Devices Inc.*, 7 USPQ2d 1064. Also, the applicant is reminded that the claimed subject matter to examination will be given their broadest reasonable interpretation consistent with the specification, and limitations appearing in the specification are not be read into the claims. *In re Yamamoto*, 740 F. 2d 1569, 1571, 222 USPO 934, 936 (Fed.Cir. 1984). With this in mind, the discussion herein will only focus on how the terms and relationships thereof in the claims are met by the references. Response to any limitation that is not in the claims or any argument that is irrelevant to or does not relate to any specific claimed language will not be warranted. Secondly, applicant argued that "nowhere does Miyaji et al indicate that particulate contamination is a problem". The Examiner respectfully invite the applicant to re-visit the disclosure of Miyaji. On column 3, lines 58-63, Miyaji notes that "the charge on the wafer can be removed by supplying an inert gas containing ions or an ionized inert gas, whereby the wafer can be prevented from being damaged". Thus, contamination in the exposure device is a problem and is recognized by Miyaji. In order to prevent the charge/or contamination on the wafer, Miyaji uses inert gas source to remove them.

Art Unit: 2851

With respect to prior art of Iizuka, as discussed, and described clearly in the disclosure of Iizuka, in order to prevent *foreign matter* as dust which approach to a sample/or an object, Iizuka teaches an electric field formation means/ or a magnetic field formation means which is arranged in the vicinity of the front of the sample or on a sample board. The electric field formation means as taught by Iizuka is to generate an electromagnetic field to prevent particle such as foreign matter from being incident on the sample to be shield, as recited in the instant claims. In view of such teachings, it would have been obvious to a skilled artisan to replace the "inert gas source" by the electric field formation means as taught by Iizuka into an exposure apparatus (for example, of Miyaji) in order to "prevent particles from becoming incident on an object to be shielded". In response to applicant's argument that there is no suggestion to combine the references, the examiner recognizes that obviousness can only be established by combining or modifying the teachings of the prior art to produce the claimed invention where there is some teaching, suggestion, or motivation to do so found either in the references themselves or in the knowledge generally available to one of ordinary skill in the art. See *In re Fine*, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988) and *In re Jones*, 958 F.2d 347, 21 USPQ2d 1941 (Fed. Cir. 1992). In this case, Miyaji and Iizuka both bear the same purpose that is to prevent: contamination of a sample/or substrate caused by charge/or particle from approaching the sample/or wafer. The Examiner fails to find applicant's arguments convincing that the claimed invention would have been unobvious to a person having ordinary skill in the art (usually a graduate engineer) under the teachings of Iizuka and Miyaji.

Art Unit: 2851

With respect to claims 28-29, it is noted that applicant does not separately argue the distinct patentability of these claims. It is therefore believed that claims 28-29 are not additionally patentable over and above the patentability of independent claims.

7. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Prior Art Made of Record

8. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure..

Dao et al (U.S.Pat. 6,279,249) teaches an electrically charged collector placed in a chamber for attracting particles within the chamber.


Art Unit: 2851

9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Hung Henry V Nguyen whose telephone number is 703-305-6462. The examiner can normally be reached on Monday-Friday (First Friday off).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Russ Adams can be reached on 703-308-2847. The fax phone numbers for the organization where this application or proceeding is assigned are 703-872-9318 for regular communications and 703-872-9319 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-305-4900.

hvn
July 4, 2003



HENRY HUNG NGUYEN
PRIMARY EXAMINER